WHAT IS CLAIMED IS:

1. An ultrasound imaging system, comprising:

an interface for receiving user input; and

a controller coupled to the interface, the controller being adapted and configured to adjust parameters for a catheter-based ultrasound probe in response to received user input,

wherein the controller is programmed to:

receive a user request for a desired imaging depth;

automatically determine an imaging frequency that corresponds to the desired imaging depth; and

adjust the imaging frequency of the system to the determined imaging frequency that corresponds to the desired imaging depth.

2. The ultrasound imaging system of claim 1, wherein the determined imaging frequency is selected from a range of incremented frequencies separated by increments of about 0.5 MHz.

3. The ultrasound imaging system of claim 1, wherein the determined imaging frequency is selected from a range of incremented frequencies separated by increments of about 0.1 MHz.

4. The ultrasound imaging system of claim 1, wherein the determined imaging frequency is within a range of about 2 MHz to about 20 MHz.

5. The ultrasound imaging system of claim 1, wherein receiving a user request for a desired imaging depth comprises receiving a user request for a change in a present imaging depth.

6. The ultrasound imaging system of claim 1, wherein receiving a user request for a desired imaging depth comprises receiving a user request for a scan through a range of frequencies.

7. The ultrasound imaging system of claim 6, wherein determining an imaging frequency for the catheter-based ultrasound probe that corresponds to the desired imaging depth comprises progressively determining a next imaging frequency for the scan through the range of frequencies.

8. The ultrasound imaging system of claim 1,

wherein receiving a user request for a desired imaging depth comprises receiving user designation of a feature within an image,

wherein automatically determining an imaging frequency that corresponds to the desired imaging depth comprises automatically determining an imaging frequency that corresponds to the user designated feature, and

wherein adjusting the imaging frequency of the system comprises adjusting the imaging frequency of the system to the determined imaging frequency that corresponds to the user designated feature.

9. The ultrasound imaging system of claim 1, wherein the controller is further programmed to:

receive an ultrasound image from the catheter-based ultrasound probe;

determine a signal attenuation in the received ultrasound image at the determined imaging frequency;

determine an imaging frequency that corresponds to the determined signal attenuation; and

adjust the imaging frequency of the system to the determined imaging frequency that corresponds to the determined signal attenuation.

10. The ultrasound imaging system of claim 9, wherein the controller is further programmed to:

receive a signal from a medical instrument and correlate the signal with the received ultrasound image.

11. The ultrasound imaging system of claim 9,

wherein the controller is further programmed to compare the determined signal attenuation to a predicted signal attenuation, and

wherein the controller adjusts the imaging frequency of the system to the determined imaging frequency that corresponds to the determined signal attenuation if the determined signal attenuation diverges from the predicted signal attenuation by at least a known value.

12. The ultrasound imaging system of claim 1, wherein the controller is further programmed to:

process a first image of a feature of interest imaged at the determined imaging frequency;

adjust the imaging frequency of the system by a delta-frequency;

process a second image of the feature of interest imaged at the delta-frequency adjusted imaging frequency;

compare a resolution of the first image to a resolution of the second image; and

adjust the imaging frequency of the system to the determined imaging frequency if the resolution of the first image is better than the resolution of the second image.

13. The ultrasound imaging system of claim 12, wherein the controller is further programmed to acquire the second image at nearly the same point in a cardiac cycle as the first image.

14. A method of controlling an ultrasound imaging system, comprising:

receiving a user request for a desired imaging depth;

automatically determining an imaging frequency that corresponds to the desired imaging depth; and

adjusting the imaging frequency of the system to the determined imaging frequency that corresponds to the desired imaging depth.

15. The method of claim 14, wherein the determined imaging frequency is selected from a range of incremented frequencies separated by increments of about 0.5 MHz.

16. The method of claim 14, wherein the determined imaging frequency is selected from a range of incremented frequencies separated by increments of about 0.1 MHz.

17. The method of claim 14, wherein the determined imaging frequency is within a range of about 2 MHz to about 20 MHz.

18. The method of claim 14, wherein receiving a user request for a desired imaging depth comprises receiving a user request for a change in the present imaging depth.

19. The method of claim 14, wherein receiving a user request for a desired imaging depth comprises receiving a user request for a scan through a range of frequencies to identify features at various depths.

20. The method of claim 19, wherein determining an imaging frequency for the catheter-based ultrasound probe that corresponds to the desired imaging depth comprises progressively determining a next imaging frequency for the scan through the range of frequencies.

21. The method of claim 14,

wherein receiving a user request for a desired imaging depth comprises receiving user designation of a feature within an image,

wherein determining an imaging frequency that corresponds to the desired imaging depth comprises determining an imaging frequency that corresponds to a distance from a transducer to the user designated feature, and

wherein adjusting the imaging frequency of the system comprises adjusting the imaging frequency of the system to the determined imaging frequency that corresponds to the user designated feature.

22. The method of claim 14, further comprising:

receiving an ultrasound image from the catheter-based ultrasound probe;

determining a signal attenuation in the received ultrasound image;

determining an imaging frequency that corresponds to a reduced signal attenuation; and

adjusting the imaging frequency of the system to the determined imaging frequency that corresponds to the reduced signal attenuation.

23. The method of claim 14, further comprising:

processing a first image of a feature of interest imaged at the determined imaging frequency;

adjusting the imaging frequency of the system by a delta-frequency;

processing a second image of a feature of interest imaged at the delta-frequency adjusted imaging frequency;

comparing image quality of the first image to image quality of the second image; and

adjusting the imaging frequency of the system to the determined imaging frequency if the resolution of the first image is better than the resolution of the second image.

24. The method of claim 23, further comprising:

adjusting the imaging frequency of the system to the delta-frequency adjusted imaging frequency if image quality of the second image is better than image quality of the first image.

25. The method of claim 23, wherein comparing image quality of the first and second images comprises comparing a resolution of the first image to a resolution of the second image.

26. An ultrasound imaging system, comprising:

means for receiving a user request for a desired imaging depth;

means for automatically determining an imaging frequency that corresponds to the desired imaging depth; and

means for adjusting the imaging frequency of system to the determined imaging frequency that corresponds to the desired imaging depth.